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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,994	06/22/2001	Tomonari Yoshimura	7402/71290	7987

22242 7590 12/03/2004

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EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/868,994	YOSHIMURA ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/22/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,777,083 (Mizota et al) in view of Sasaki et al (US Patent 4,693,553).

Regarding claims 1, 7 and 8, Mizota et al (US Patent No. 6,777,083) discloses a plastic optical fiber having a core made of methacrylate polymer free from benzene rings, the amount of sulfur atoms that are not bound to the polymer in said core being set to 5ppm or less (see claim 1 of Mizota et al).

Mizota differs from claims 1, 7 and 8 in that he fails to teach one end of the plastic optical fiber being optically coupled to a short-wavelength light-emitting element for emitting light signals corresponding to electrical signals input from the outside and an optical receiver having a photodetecting element coupled optically to the other end of the plastic optical fiber and adapted to generate an output electrical signal in accordance with the output of the photodetecting element. However, Sasaki teaches one end of the plastic optical fiber being optically coupled to a short-wavelength light-emitting element for emitting light signals corresponding to electrical signals input from the outside and an optical receiver having a photodetecting element coupled optically to the other end of the plastic optical fiber and adapted to generate an output electrical signal in accordance with the output of the photodetecting element (Fig. 1, col. 6, lines 47-67). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the one end of the plastic optical fiber being optically coupled to a short-wavelength light-emitting element for emitting light signals corresponding to electrical signals input from the outside and an optical receiver having a photodetecting element coupled optically to the other end of the plastic optical fiber and adapted to generate an output electrical signal in accordance with the output of the photodetecting element as taught by Sasaki in the system of Mizota. One of ordinary skill in the art would have been motivated to do this since Sasaki suggests in column 6, lines 47-67 that using such the one end of the plastic optical fiber being optically coupled to a short-wavelength light-emitting element for emitting light signals corresponding to electrical signals input from the outside and an optical receiver having

a photodetecting element coupled optically to the other end of the plastic optical fiber and adapted to generate an output electrical signal in accordance with the output of the photodetecting element have advantage of allowing providing an optical communication system with high capacity and high speed and reducing the transmission loss.

Regarding claims 2 and 9, Mizota further teaches wherein the amount of sulfur atoms that are not bound to the polymer in said core is set to 3ppm or less (see claim 11 of Mizota).

Regarding claims 3, Mizota further teaches wherein the amount of sulfur atoms that are bound to the polymer in said core is set to a value in the range from 200 to 1000 ppm (see claim 1 of Mizota).

Regarding claims 4-6 and 10, the combination of Mizota and Sasaki teaches the short-wavelength light-emitting element emits light having the maximum light emission wavelength of 600nm or less (Fig. 1 of Sasaki).

Regarding claim 11, it would have been obvious to obtain an plastic optical fiber has a transmission loss of 0.1dB/m or less in order to reduce the transmission loss and to enhance heat resistance and perform long distance communication.

Regarding claim 12, it would have been obvious to obtain an optical receiver has the minimum reception sensitivity of -25dBm or less in order to reduce the bit error rate.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-Claim 1 recites the limitation **"the amount of sulfur atoms that are not bound to the polymer"** in lines 7 and 8. There is insufficient antecedent basis for this limitation in the claim.

-Claim 3 recites the limitation **"the amount of sulfur atoms that are bound to the polymer"** in line 2. There is insufficient antecedent basis for this limitation in the claim.

-Claim 8 recites the limitation **"the amount of sulfur atoms that are not bound to the methacrylate polymer"** in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giaretta et al (US Patent No. 6,157,757) in view of Sasaki et al (US Patent No. 4,693,553).

Regarding claims 7 and 10, referring to Figure 2, Giaretta teaches an optical communication apparatus, comprising:

an optical transmitter (i.e., source 101, Fig. 2) having a yellow light-emitting element for emitting light signals corresponding to electrical signals input from the outside by using light emitted from the yellow light-emitting element (see col. 4, lines 1-4, Giaretta teaches that other wavelengths within the 0.5 to 1.3μm operating range of polymer fiber could also be utilized);

a plastic optical fiber (i.e., plastic optical fiber 107, Fig. 2) having a core (core 107a, Fig. 2) made of polymer free from benzene rings, one end of the optical fiber being optically coupled to the yellow light-emitting element; and

an optical receiver (i.e., optical receiver 210, Fig. 2) having a photodetecting element (211) coupled optically to the other end of the plastic optical fiber (107) and adapted to generate an output electrical signal in accordance with the output of the photodetecting element (211), wherein the plastic optical fiber (107) is designed so that light propagates in only one direction (col. 4, lines 5-55).

Giaretta differs from claims 7 and 10 in that he fails to teach the plastic optical fiber having a core made of methacrylate polymer. However, Sasaki teaches the plastic optical fiber having a core made of methacrylate polymer (Fig. 1, col. 2, lines 54-66). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the plastic optical fiber having a core made of methacrylate polymer as taught by Sasaki in the system of Giaretta. One of ordinary skill in the art would have been motivated to do this since Sasaki suggests in column 2,

lines 54-66 that using such the plastic optical fiber having a core made of methacrylate polymer have advantage of allowing reducing the transmission loss and to enhance heat resistance and perform long distance communication.

Regarding claim 11, it would have been obvious to obtain an plastic optical fiber has a transmission loss of 0.1dB/m or less in order to reduce the transmission loss and to enhance heat resistance and perform long distance communication.

Regarding claim 12, it would have been obvious to obtain an optical receiver has the minimum reception sensitivity of -25dBm or less in order to reduce the bit error rate.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

Hanh Phan

Primary Examiner

11/22/2004